Panasonic
ideas for life

Mini DV Digital Video Cassette

How to use this superbly mobile professional digital video camera-recorder!



AG-DVC30 User Guide

Overview

Easy to carry and simple to operate!
This compact video camera-recorder incorporates three 1/4 - inch CCDs with 410,000 pixels each.



Well-Balanced Body for Easier Handling

The in-line configuration creates a straight line from the viewfinder to the lens. The short body makes it easy to handle and maneuver the camcorder. The built-in stereo microphone is the same type used in the AG-DVX100(A).



The grip and recorder mechanism have been shifted slightly forward, so the center of gravity during handheld shooting is located approximately in the middle of the camcorder. This relieves fatigue during lengthy sessions to a surprising degree.

Designed with Customer Input

The AG-DVC30 is a camera that our factory engineering team designed from "the customer in," rather than from "the technology out." The heart of our new Digital Video Camcorder is its 16x Leica Dicomar lens that zooms very smoothly and quietly and, depending on the user's choice, either quickly or slowly. We've packed a host of professional features into a small, lightweight, mobile camcorder that will let you, and your budget, breathe a little easier. It's got a dedicated SMPTE Color Bar button, four scene files and three user set buttons that can be set to 14 different functions. These allow you to customize the camera to your specific needs. A wide range of accessories is also available for it.

Captures what the eye can't see

It's the world's first 3-CCD camcorder to include an infrared, nighttime, B&W shooting mode. With features like this SNS (Super Night Shooting) mode and the time/date superimposition, it is ideal for professional nighttime news gathering, crime scene investigation and surveillance. In fact, the AG-DVC30 is being used in the production of several Cable TV series. It's truly impressive to see the DVC30's ability to deliver a beautifully detailed B&W picture with little noise in Zero Lux!

Crime fighter

The AG-DVC30 can be a valuable tool for gathering evidence in crime investigation, much like a video witness. Video footage is now widely accepted and can serve as an effective legal form of backup to protect not only the victim's rights, but also those of the officer as well. Law enforcement officers are very accepting of this form of documentation, as video has probably helped them or a colleague prove a case in the past. Video has also served as an effective training tool, to learn from the mistakes another officer might have made in the course of his or her difficult job. Night shooting, a 160x Digital Zoom and Recordable Time/Date are key features for law enforcement applications.



Opening the folding LCD monitor exposes a panel of large buttons that make operation very easy. Setting the Auto-Manual switch to the AUTO position enables fully automatic operation of: Focus, Shutter Speed, Iris, Gain and White Balance.

Multi Style and Handling

The camera-recorder can be configured in a variety of ways to match



Compact shooting using just the **camcorder!**

When in its most basic configuration, the AG-DVC30 is very compact, making it possible to shoot unobtrusively even on busy city streets. It fits easily into a napsack or bag. The grip is compact, making it easy for people with small hands to hold the AG-DVC30 securely.







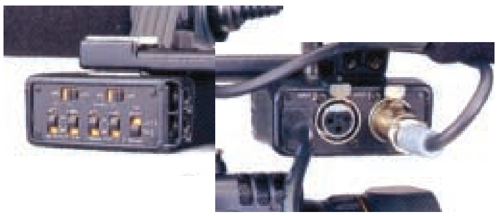
Active shooting with the **removable handle attached!**

Having a handle makes it convenient to carry the camcorder about as needed. When holding the camcorder by the handle, the balance is perfect. The carrying handle can also be used for low-angle shooting, shooting while in motion and more. The handle makes mounting the camcorder on a tripod, and later removal, a snap. The handle attaches to the accessory shoe on the camcorder body and is secured in place with two screws. The screws are attached to the handle, so there is no need to worry about losing them. And the handle can be attached or removed on-site.

versatile applications.

The microphone adaptor and shotgun microphone are really easy to use!

Two independent audio channels allow switching between microphone and line inputs as well as easy level adjustment. It is also possible to select a setting that records the INPUT-2 audio signal to both channel 1 and channel 2. The carefully designed microphone holder incorporates a damper to reduce vibrations.





Slides on, secured by a screw.
The microphone holder slides onto a mounting shoe on the bottom of the handle and is secured by a screw. Since it fits to the bottom of the handle, the microphone holder does not raise the center of gravity. The camcorder s excellent balance when using the handle is maintained.

A custom, locking 8-pin jack is used to connect the microphone to the camcorder. The optional microphone adapter includes a custom jack cover that allows you to cap with the 8-pin jack connected.



Shoot with the **microphone adapter** and **shotgun microphone** attached!

The optional microphone adapter attaches to the handle, allowing fitting of a microphone employing a 48 V phantom power supply via the XLR terminal. Two inputs are supported, permitting a wireless microphone and line input to be used simultaneously.



(Option)
AG-MYA30G
Microphone Adapter

This is the first three-CCD camera-recorder to offer an infrared nighttime photography mode. This makes it possible to capture video (black-and-white) without lights in the pitch dark. The built-in infrared lamp provides illumination of subjects up to 5 meters away. For longer range, the optional infrared lamp (see photo #4) can illuminate subjects up to 30 meters (98 feet).

(Option)
AG-YRL30G
Infrared Lamp



Built-In Infrared Lamp

Features

Numerous functions quickly become familiar with use and help increase

Focus Ring

When auto-focus is turned on, this ring can be used for manual zoom or iris adjustment. You can select either of these two settings, or the Off setting, from a menu. The zoom ring is not mechanical, but linked to an electric motor. This results in a slight, but not particularly annoying, delay. The lightning fast field angle adjustment is particularly impressive.

Super Nighttime Shooting

The built-in infrared lamp makes it possible to shoot in the dark. You can also select the Super IR (infrared) mode with slow shutter or the Color NS mode, which uses slow shutter only.



Viewfinder

The viewfinder employs a 0.44-inch 180,000 pixel color LCD which has an easy to use sliding focus control. The display can be switched to black-and-white by changing a menu setting. The AG-DVC30 comes with two eye cups; the one shown here is the larger of the two. The smaller eye cup is pictured in the photo at the bottom of the next page.

White Balance Button

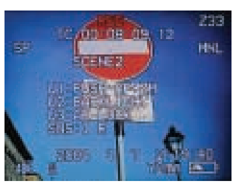
Each press of this button advances through the Auto, Lock, Indoor, Outdoor, and Set Mode settings. The Set Mode selection adjusts the black balance as well.

Digital Zoom Button

You can select digital zoom settings of 24x and 160x from a menu. When the 24x setting is selected, one press of the button increases the overall zoom by 1.25x, and a second press by 1.5x.

Mode Check Button

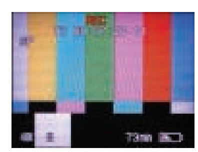
While this button is depressed, the scene file (see page 10), the settings for the three user buttons, the SNS setting, and the date and time setting are displayed.





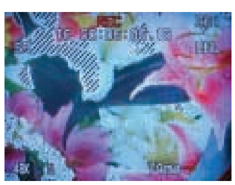
Colorbar Button

This button is used to display and record SMPTE standard color bars. By specifying ID information using a menu setting, ID information can be displayed and recorded as well.



Zebra Pattern Button

This function uses a striped pattern to indicate areas of the frame where blooming is possible due to overexposure. The indication brightness level can be adjusted within a range of 80% to 105% in 5% increments.



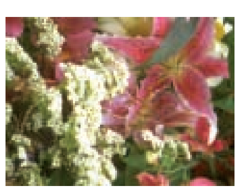
Optical Image Stabilization Button

The Optical Image Stabilization (OIS) function employs shift-type jiggle compensation. Switching OIS on or off does not change the picture quality, but it should probably be turned off when using a tripod.

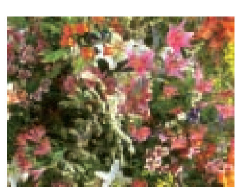
Focus Assist with One-touch Zooming



Press the user button assigned to the One-Push Zoom function.



Zoom in and allow the auto-focus function to operate.



Release the button to return to the previous field angle.

Pros who use commercial camcorders not equipped with auto-focus perform a focusing operation in which they quickly increase the zoom all the way, adjust the focus, and then return to the previous field angle. This function performs this “zoom plus focus” operation completely automatically. The zoom setting remains at maximum while the button is depressed, so all you need to do is wait until the subject is in focus and release the button.

shooting efficiency.

Timecode

You can specify an initial value for the timecodes that are recorded on the videotape. Also, the user's bit can be used to record up to eight columns of data. The counter button in the LCD is used to switch the display on and off.

Zoom Position

The zoom position is indicated by an absolute value between 00 and 99. The widest field angle is 00 and 99 is maximum magnification. This indication is useful for ensuring an accurate field angle.

DV Synchro Lock

This indication appears when the DV Synch Backup function (described below) is operating.



Marker and Video Level

During zebra pattern display, pressing the ZEBRA button again causes a marker to appear in the center of the screen. This indication shows the video level detected for the part of the image inside the marker frame.

Audio Level Meters

Holding down the MENU button for an extended time causes the AUDIO LEVEL SETUP screen to appear. In this status, switching between the auto and manual settings, as well as volume and monitor adjustment, can be performed.





Camera Remote Jack

This jack can be used to connect a third-party remote zoom control. It is compatible with zoom controllers from VariZoom and others.

DV Synchro Lock Function

	AG-DVC30	External DV Device
Simultaneous Recording	Recording	Recording
External Recording	Not Recording	Recording
Chain Recording	Recording End →	Recording

When connected to an external digital video device using a DV cable, the AG-DVC30 can perform synchronized recording using any of the above three patterns. If Chain Recording is selected, recording begins on the external device when the end of the camcorder s tape is reached.

User Button 2

User Button 3

User Button 1



Functions That Can Be Assigned to User Buttons

- (PUSH) AF+ ZOOM: One-touch Zoom plus auto-focus.
- (PUSH) AF: In manual focus mode, auto-focus operates while the button is depressed.
- WHITE BAL: White balance.
- AWB LOCK: Auto white balance lock.
- BACKLIGHT: Backlighting correction.
- SPOTLIGHT: Spotlight anti-"blooming" correction.
- REC CHECK: Used to check previously recorded material.
- D. ZOOM: Digital zoom.
- WHITEFADE: Fade to white.
- BLACKFADE: Fade to black.
- PHOTO SHOT: Records a 7-second still image on the tape.
- INDEX: Index recording.
- SNS: High-sensitivity recording mode.
- EVF DTL: Emphasizes silhouettes in the viewfinder and LCD images.
- LUMI-FLICK: Simulates the flicker in old movies.
- AE LOCK: Auto exposure lock.

Note: WHITE BAL and SNS cannot be assigned to user buttons 2 or 3.

Image Quality

The wide angle and superb accuracy of the 16x Leica Dicomar lens will



The unique 16x Leica Dicomar lens of the AG-DVC30 is a combination of Art and Technology.

Digital video cameras using 3 CCD imagers have improved so much, that the quality differences of the optics have become the more significant factor to compare. The lens' focal distance can determine whether a particular subject can be captured or not. The DVC30's 16 times Leica lens is a major competitive advantage. The Zoom Rocker control is fast for sports but even more impressive, is how slowly it zooms! For shooting dramatic work, it can take you from wide to telephoto in approximately 100 seconds. What's more, the Switch Mode menu allows a choice for Zoom speed curve favoring Fast, Slow or Normal. It has smooth start/stops and is quiet, so it won't affect the soundtrack.

The 16x Leica Dicomar lens of the AG-DVC30 is a joy to use. Its focal distance allows handheld shooting of distant subjects at full zoom magnification. Furthermore, its performance passes the test at the widest field angle setting. And you can achieve an even wider field angle by mounting an optional 0.7x wide conversion lens. This results in a minimum focal distance of 28 millimeters (35 mm equivalent). This broad focal distance range in a compact camera (equipped with a small wide conversion lens) will release your inhibitions to capture new and exciting shots. On the topic of the desire to capture stunning images, the "Movie-Like" scene file setting is invaluable. With its 410,000 pixel CCD's, the AG-DVC30 produces impressive cinema-like effects.

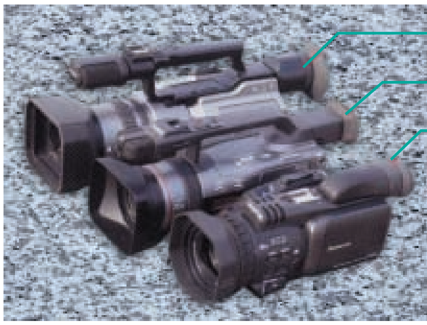
The scene file adjustment items are simple and easy to understand. They are outstanding in a camcorder in this class, and they provide you with the ability to tweak the picture to get exactly the results you want.



In the past, if digital zoom was used to exceed full optical zoom magnification, the picture quality would decrease as the image was enlarged using digital processing. On the AG-DVC30, in contrast, pressing the Digital Zoom button once causes the entire zoom range to shift to 1.25x magnification, and pressing it again shifts it to 1.5x magnification (in the 24x mode). This decreases the area being read by the CCDs and maintains roughly the same picture quality throughout the zoom range (through resolution does decrease somewhat). In fact the reduction in picture quality is not particularly noticeable during the shift to 1.25x magnification. A 160x mode setting, using a 2x, 5x, and 10x magnification shift, is also available on a menu.

arouse your desire for video creation.

Field Angle Comparison of AG-DVC30
with its class other camera-recorders

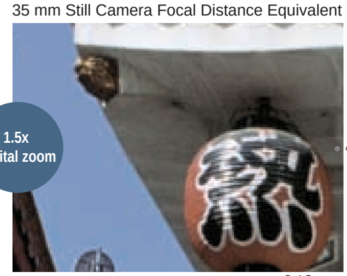


Sony: Mini-DV Camera-Recorder
Canon: Mini-DV Camera-Recorder
Panasonic: AG-DVC30

A competing 1/4-inch 3CCD camera-recorder is the Canon XV2(GL2),which features 20x zoom. The Sony DCR-VX2100(PD170:professional model), a competitive 1/3-inch 3CCD camera-recorders,has a 12x optical zoom function. When placed beside them, the compact size (particularly the short front-to-back dimensions of the AG-DVC30) sets it apart.

35 mm Still Camera Focal Distance Equivalent

1.5x digital zoom



948mm

1.25x digital zoom



790 mm

The Digital Zoom button magnifies the entire field angle.

Maximum Magnification



20x 790 mm



12x 518.4 mm



16x 632 mm

Maximum Field Angle



1x 39.5 mm



1x 43.2 mm



1x 39.5 mm

Canon
Mini-DV Camera-Recorder

Sony
Mini-DV Camera-Recorder

Panasonic
AG-DVC30

1.5x Digital Zoom

1.25x Digital Zoom

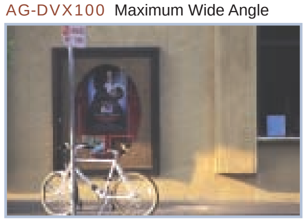
Optical Zoom

Fit the wide conversion lens for an even wider angle.

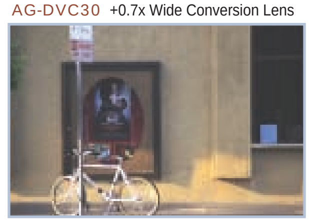


AG-LW4307P Wide Conversion Lens

AG-DVX100 Maximum Wide Angle



AG-DVC30 +0.7x Wide Conversion Lens



AG-DVC30 Maximum Wide Angle



Fitting the custom wide conversion lens on the AG-DVC30 reduces the minimum focal distance to 27.7 mm (35 mm equivalent), for wider field angle than even the AG-DVX100A (32.5 mm).

Image Quality

Use **scene files** to achieve the image characteristics you want.



SCENE1/SCENE2 (Normal)	
Detail:	0
Color Level:	0
Hue:	0
Color Temperature:	0
Pedestal:	0
AE Shift:	0
Skin Detail:	0
Motion Picture Mode:	Normal



B. PRESS (Black Press)	
Detail:	0
Color Level:	+1
Hue:	0
Color Temperature:	0
Pedestal:	-1
AE Shift:	0
Skin Detail:	Off
Motion Picture Mode:	Normal



MOVIE-LIKE (Movie-Like)	
Detail:	-3
Color Level:	+4
Hue:	0
Color Temperature:	0
Pedestal:	0
AE Shift:	-3
Skin Detail:	Off
Motion Picture Mode:	Frame

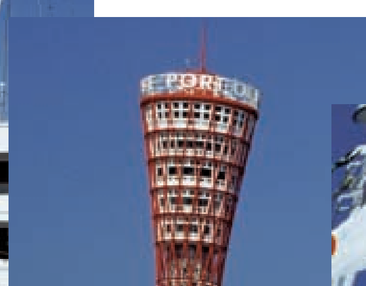
The AG-DVC30 can store four scene files in memory. You can change the picture quality adjustment items in these files and then save them. The examples above show the factory defaults for three scene files and images captured using them. SCENE1 and SCENE2 apply no adjustment to the image. The third scene file, Black Press, applies adjustments designed to tighten up the black elements in the image. The fourth scene file, Movie-Like, produces a Cinema-like effect. Selecting the Movie-Like scene file sets gamma to the same response curve as the Cine-Like D setting on the AG-DVX100A and switches the motion picture mode to Frame, thereby producing a simulated progressive signal that is similar to 30p.

Capture dynamic video images **with the 16x zoom function**.

The field angle when no zoom is applied is very wide. This means that zooming from no magnification to full magnification produces a very dynamic effect. For example, you could start with a wide shot of a passenger ship in a bay, with the Tower in the background, and then suddenly zoom in on one of the flags flying on the ship. By making use of the camera-recorder's high magnification of 16x, it is possible to blur the background of the object you are focusing on and to make good use of the compression effect of long-range shots.









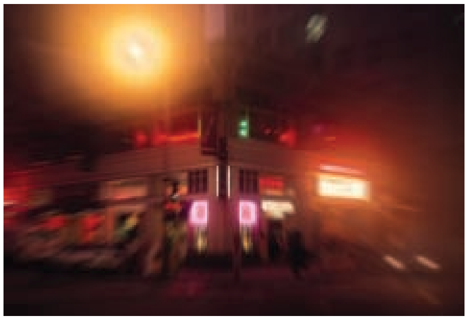
Superbb High Sensitivity for **Night View Shooting**

This effect is similar to what you see with your own eyes when the automatic exposure setting is used, and the gain is not excessive. The dark portions do not appear rough or blotchy, and color reproduction is good. The AG-DVC30 really shows its mettle at night.



Make effective use of the **slow shutter**.

You can select slow shutter settings of 1/30, 1/15, 1/8, or 1/4 second. For example, you could mount the camcorder on a tripod and capture sequences in which only the figures of people walking by are blurred. Combining slow shutter with zoom also produces an interesting effect. Another advantage of a slow shutter setting is increased sensitivity.





Active Motion

Shooting a Live Performance

This is a camera-recorder designed to meet the many demands of on-site shooting.



The first thing that struck me about the AG-DVC30 is its appealing style. The camera-recorder's black body is short and stout, which could be considered clunky and unsophisticated. But to me it looked reliable and intrepid: a trustworthy companion ready for anything. The AG-DVC30 is a digital video camera-recorder with many different faces. One thing we could find was that it was more customizable than the Sony PD150/PD170. For example, the Sony PD150 does not allow you to record audio unless you connect a microphone to the Canon jack, whereas the AG-DVC30 is equipped with a built-in stereo microphone. This means you can record audio even with the camera-recorder in its most minimal, stripped down, configuration. Furthermore, the handle and Canon adapter can be combined freely, and the mounting system, which uses a shoe and thumbscrew, is simple, secure, and reliable.

The lens is a 16x zoom with a field angle range of 39.5 to 632 mm (35 mm equivalent). This puts it near the head of the field of currently available digital video camera-recorders in zoom magnification. To be honest, I wish the AG-DVC30 also offered a wider field angle, but that can be remedied by mounting a wide conversion lens.

I also think it is great that Panasonic has focused its attention on dynamic digital video. While I can understand the attraction and effectiveness of still photography, there is really no need to add a half-baked still photo function to a digital video camera-recorder when digital still cameras have become as advanced as they are today. The AG-DVC30 truly embodies the maxim "simple is best." At the same time, it incorporates a lot of usability features that show considerable attention to detail.After operating the AG-DVC30 for a while and loading a variety of settings, I gave some thought to the ways this camera-recorder could be used in different situations. The live performance pictured here is one such situation. There are a number of different approaches that can be taken when capturing a live performance, and the AG-DVC30 seems to be well suited to this sort of application.

Direct Audio Input from a Mixer



You can input audio directly from a mixing console. However, since this is the mixed output from the stage, it will not include applause or other ambient sounds produced by the audience. To capture the ambience, place a small fixed video camera-recorder in the venue and leave it running. Later, during editing, material from the small camera-recorder can be mixed in as desired. It is also possible to use an MD recorder, rather than a camera-recorder, for this purpose.

XLR Jack for Audio Input

The AG-DVC30 is equipped with an XLR jack, making it possible to connect two audio input lines and eliminating the need to use a gun microphone. The cable can be bound to the handle so that it won t get in the way when doing handheld shooting.

After recording parts of the performance with the camera-recorder mounted on a tripod, you can move around the venue in handheld mode to capture the mood.

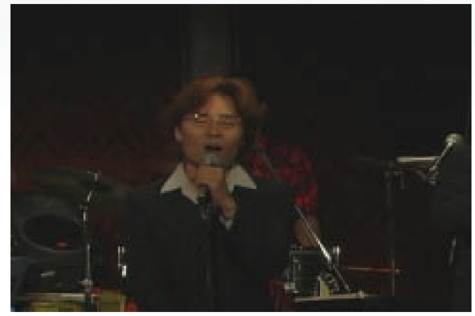
The 16x zoom function is a powerful tool when you are recording a performance from the rear of the venue, with the camera-recorder mounted on a tripod. It is also possible to use the camera-recorder in handheld mode, approaching the musicians close and moving around to provide increased impact.



You can input audio directly from a mixing console via the camera-recorder's Canon jack. As long as you make sure the volume is set appropriately ahead of time, there's no need to make further adjustments while the show is in progress. In effect, you're leaving everything up to the person controlling the mixer.

The next settings are the user buttons. The USER 1 button is located behind the zoom lever, and USER 2 and USER 3 are on the left side of the lens. I assigned the auto-focus function to USER 1, the spotlight function to USER 2, and the one-push auto-zoom function to USER 3. Though the functions I assigned to USER 1 and USER 3 are both related to auto-focus, they are used differently. With the auto-focus function assigned to USER 1, it is possible even while operating the focus ring with your left hand to employ the auto-focus function momentarily as needed, using the index finger of your right hand. The one-push auto-zoom function assigned to USER 3 also uses auto-focus functionality. It simultaneously maximizes the zoom setting and focuses the image. Though it's a little unorthodox, I like to use this function to quickly zoom in and out on a subject. The effect it





creates is really something.

As this illustrates, the user buttons can be assigned a variety of functions to match the circumstances in which you are using the camera-recorder. The buttons are conveniently positioned, and I got the impression that in actual use there would be little likelihood of accidentally confusing them.

While trying out the camera-recorder at the performance venue I discovered that the 3.5-inch LCD monitor is another big attraction. It is big and easy to see when viewed indoors, and even outside the screen provides surprisingly good visibility. Generally speaking, I used manual focus when shooting to prevent instability or wobbliness in the focus. When I needed to make adjustments, however, I could use the user buttons to switch quickly to the auto-focus mode. The LCD monitor was terrific for checking the focus during such operations, making it easy to get the sharpness just right.

I also tried out the Movie-Like and slow shutter settings. The Movie-Like setting is not a full-scale duplication of the AG-DVX100(A)'s Cine-Like feature, but rather a simplified version. Nevertheless, it gives the video image a similar feel and is quite effective.

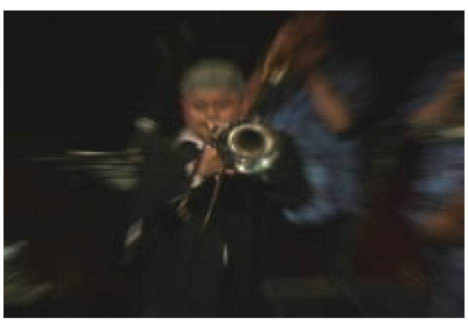
I adjusted the slow shutter setting while checking the results using the LCD monitor. I ended up using settings between 1/15 and 1/4 second for different parts of the show, depending on the mood of each song.

The final result was quite atmospheric and benefited from the camera-recorder's excellent color reproduction, combined with special effects added using the slow shutter and Movie-Like settings.



Ideal for Capturing Shots of the Stage Because Colors Are Reproduced Beautifully

The AG-DVC30 is equipped with an XLR jack, making it possible to connect two audio input lines and eliminating the need to use a gun microphone. The cable can be bound to the handle as shown here so that it won t get in the way when doing handheld shooting.



Providing Enhanced Dynamism with Slow Shutter Settings

Using zoom as well or shaking the camcorder can further heighten the sense of excitement.

Using the Built-In Infrared Lamp





The area where the audience was sitting was almost completely dark, with only a small amount of illumination coming from the stage lighting. Using the built-in infrared lamp, however, I was able to capture the faces of the audience this clearly. The distance from the subjects was about 3 meters.

What is the best way to make use of the three user buttons?

The user buttons are designed to be assigned to three functions you use frequently. One possibility is to set them based on your own style of using the camcorder and then never change the settings. However, we recommend resetting the buttons as appropriate before each new assignment, selecting the functions you will need based on the sort of situation in which you will be using the camcorder. Listed below are suggestions for the following types of situations.

Case 1: Indoor Live Performance

User Button 1:	(PUSH) AF
User Button 2:	SPOTLIGHT
User Button 3:	(PUSH) AF+ZOOM

Case 2: Shooting Mainly People Outdoors

User Button 1:	(PUSH) AF
User Button 2:	BACKLIGHT
User Button 3:	(PUSH) AF+ZOOM

Case 3: Indoor Interview

User Button 1:	INDEX
User Button 2:	AE LOCK
User Button 3:	(PUSH) AF+ZOOM

Case 1 corresponds to the live performance described on this page. I assigned the SPOTLIGHT (anti- blooming correction) function to USER 2 to be able to compensate immediately for the bright lights used on the stage. Case 2, in contrast, is a situation in which strong backlighting from the sun might be a problem, so I assigned the BACKLIGHT function to USER 2. For the interview, I thought I would have use for an INDEX button. I have (PUSH) AF+ZOOM assigned to USER 3 in all cases, because I expect to make extensive use of it.

Making the Most of This Compact Camera-Recorder

Making Travel Videos

Maneuverability is the key.



Balancing the twin goals of picture quality and weight saving is a key issue for camera-recorder designers. It can be difficult to find an ideal compromise between these two aims, and the requirements of users are constantly changing as well.

The AG-DVC30 was born to satisfy these kinds of requests from users. The AG-DVC30 is very compact, especially when the attachments such as the handle are removed.

Nevertheless, in spite of its compact dimensions, the control buttons are large and easy to operate. The AG-DVC30 also offers a similar level of flexibility to the AG-DVX100(A). It also may be just the thing as a backup camera for the AG-DVX100.

Videos of a Day's Hike in the Mountains

Many nature documentaries are full of beautiful images and make you feel refreshed when you watch them, but they can be extremely grueling to film. Recently I've revived my interest in hiking in the mountains, so I decided to pop the AG-DVC30 and a tripod into my napsack and set out for a day trip to the hills.

I tried shooting scenery out of a car window with the AG-DVC30. First of all, I fashioned a "window hood" out of rubber from old gloves and mounted it in such a way that reflections from the window glass would be blocked out. If the camera-recorder is kept perpendicular to the window and the lens held right up to the glass there are no problems with reflections, but when you wish to change the angle, the window hood comes in handy.

I tried shooting using the AG-DVC30's Movie-Like mode. This mode produces a simulated progressive signal at 30 frames per second rather than a true progressive signal at 24 frames per second. I felt that 30 frames per second was better for shooting subjects that were moving by quickly outside the window.

Next I tried shooting while walking around. To get really smooth video it is probably a good idea to use a steadycam or similar device to absorb vibrations, but for a documentary it is not necessary to go to such lengths. Using a handheld camera-recorder while taking care to shooting reasonably smooth video is sufficient.



The handle of the AG-DVC30 protrudes upward somewhat, and the camera-recorder body is well balanced. When I later viewed video I shot while carrying the camera around by the handle, I found that although there was more jiggling than would have been the case if a steadycam were used, the sense of walking through the woods was conveyed well. The shakiness of the picture was not particularly bad, and overall the results seemed quite usable. I think the difference can be ascribed to the well-placed center of gravity when the AG-DVC30 is carried by the handle, as well as to the relationship between the weight of the camera-recorder and the strength of the cameraman.

The AG-DVC30 brings new meaning to the phrase “compact and functional.” I’d like to have one as a camera-recorder to take with me when I walk around. It can be used in conjunction with the AG-DVX100(A) and a battery pack. In short, the AG-DVC30 is a powerful tool for the documentary creator.



Shooting On the Move, Holding the camera-recorder by the Handle

It is possible to control the camera just by gripping the handle lightly, without much force. I tried shooting while climbing stairs, and the result was less jerky than I had expected.



A rain jacket for the AG-DVX100 also works with the AG-DVC30.

I used a rain cover to protect the camera-recorder against the elements. It was just big enough to accommodate the AG-DVX100A, so the AG-DVC30 fit easily. As the photo shows, it was even possible to use the rain cover with the LCD monitor extended.

Small Enough to Fit in a Carrying Bag

The AG-DVC30 fits right into a small carrying bag. The photo shows a larger bum-bag.
The handle makes it easy to take out the camera-recorder quickly, should an opportunity arise. Removing the handle makes the camera-recorder still more compact and easy to stow.



Lightweight Tripod

All my gear in total was a tad heavy when carrying a tripod, but there is just no substitute when you want to capture video completely free of jitter.



My User Button Assignme

User Button 1:	REC CHECK
User Button 2:	EVF DTL
User Button 3:	(PUSH) AF+ZOOM

The FOCUS button does not have an infinity setting. Auto-focus may be the basic operating mode, but when in the manual focus mode it is useful to have (PUSH) AF+ZOOM (which instantly zooms to the maximum magnification, auto-focuses, and then zooms back to the original field angle) assigned to USER 3. Operation is extremely fast. To USER 2 I assigned EVF DTL, which emphasizes silhouettes in the viewfinder image and makes focusing easier. Finally, I assigned REC CHECK, for checking previously recorded material, to USER 1, right near the zoom lever. I also use this last setting on the AG-DVX100.

CASE STUDY 3

Infrared Photography Function

Use it for nature photography!

We’ve come to understand the nocturnal habits of the screech owl.



Researchers in the animal ecology field make extensive use of video equipment. It is important to keep a video record of animal behavior.

Furthermore, it is now the accepted practice at academic conferences to incorporate video clips into presentations.

The birds of Minami Daito Island, Okinawa, such as the Daito screech owl have evolved in distinctive ways. Researchers' work involve the use of several video camera-recorders. Most of them used to be Hi-8 models, but lately they have been transferred to DV.

The video shot with the Hi-8 camera-recorders can not have sufficient definition to allow researchers to make out the colors of the birds. This sometimes made it hard to tell them apart. Whereas the superior picture quality of DV has really been a godsend.

But there were still some problems remaining. Nature photography often involves setting up a nesting box, or the like, and then mounting a camera-recorder nearby. Ideally, it should be possible to leave the camera-recorder running for four or five hours continuously, without the need to change tapes. But using an 80-minute DV tape in the LP mode only yields two hours of video. This is where the Synch Backup function of the AG-DVC30 turned out to be a real lifesaver. When the CHAIN mode on the setting menu is selected, recording continues automatically on a backup DV device when the AG-DVC30’s tape runs out. This results in a continuous recording time of four hours.



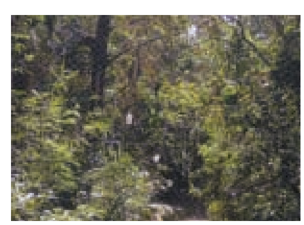


This image was shot with the optional infrared lamp mounted on the AG-DVC30. A Daito screech owl can be clearly seen in the nest hole. (The distance was about 10 meters, and the spotlight mode was used.) For use in nature photography, the ability to superimpose a date and time stamp directly onto the video signal (rather than adding time codes later on) is essential. The AG-DVC30 has this function with a resolution down to the second.

Using an Infrared Lamp to Photograph Nocturnal Animals

The infrared photography function and infrared lamp of the AG-DVC30 made it possible to shooting groundbreaking images. The Daito screech owl is a nocturnal creature, and it is difficult to observe its behavior during the night, when it is active. In the past, using infrared photography would have been a major undertaking. But with the AG-DVC30 all that was necessary was to slip the optional infrared lamp (battery powered) onto the camera-recorder’s mounting shoe.





The observation area during the day. The Daito screech owl lives in dense forest. The camera is set up about 10 meters away from the nest.


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Appendix

Demonstrating the AG-DVC30

The new Panasonic AG-DVC30 is loaded with **professional features** in a small, lightweight mobile package. Built tough, with a die cast Magnesium Alloy chassis & handle. It sports a Leica Dicomar 16x Zoom Lens that will surprise you. Clearly, the DVC30 is the "pro-fordable" choice in the 1/4" three-CCD palm-sized camcorder category.



Preparation

On Switch Mode Menu

1. Set **USER1** to **Push AF + ZOOM**
2. Set **USER2** to **Lumi-Flik**
3. Set **USER3** to **White Fade**

On the **Other Functions** Menu, Set Tape Protect to STBY (Standby).

With the DVC30 on the tripod, connect a VariZoom VZDVR130 or VZDVX100 control at the rear and mount on the tripod handle. No DV tape is required, open the side screen and put a charged battery or AC adapter DC power plug on the back.

Start:

The AG-DVC30's 16 times Leica lens is a major competitive advantage. Feel the Zoom Rocker control or VariZoom yourself. It's fast when you need it to be fast! For sports you can go right in on the ball in one second. But even more impressive, is how slowly it zooms! For shooting dramatic work it can take you from wide to telephoto in as slow as 100 seconds. Surprisingly, it has the feel of an expensive professional lens costing as much as the entire AG-DVC30 which already has a price that is incomparably affordable.

Note the **smooth start/stops** this precision zoom gives you...very professional. The end user who views the images made with the DVC30 will think the video was made with a large shoulder mounted camcorder with an expensive lens. The AG-DVC30's **quiet** lens motor won't affect the soundtrack as much as other camcorders in its class. And as an added feature, the **Switch Mode** menu allows a choice for Zoom speed curve favoring Fast, Slow or Normal. What's more, the fastest and slowest speeds are still available whichever choice you make, so it's the taper of the control or the zoom curve that's being selected, again a trait of a very expensive lens.

Digital Auto Focus

Pull back to Wide Angle and put your watch and sleeve in front of the lens (allowing a little light to get in there). **Watch** the lens sharpen all the way in to the Macro focus mode. Drop your hand down, the lens will quickly and accurately focus on the subject in the distance. Raise your hand in front of the camera again. Watch the auto focus return to Macro. Fast & accurate Auto Focus with no hunting! Notice the DVC30 is focusing better and faster than many end users could and to prove it, zoom in all the way to telephoto (most critical) and scan the across different subjects at different distances and see how accurate the auto focusing is.

Since the Auto Focus function is so accurate, we will be using it more often than not, and typically that would mean our Focus Ring is wasted. Well the AG-DVC30 is not a typical camcorder! With the DVC30 we can go to the **Switch Mode Menu** and choose **Focus Ring - Zoom**. Now try the Focus ring. The zoom now has a touch and feel that's a delight to the senses. So smooth!

Our factory engineers were able to add a servo momentum feel to its movement. It's a dampened response that allows you to do those quick reverse moves so popular today. It's especially useful when standing on the left side of the camera with the 3.5" side screen folded back. Your video footage will never look jumpy, like an amateur made it, because the DVC30 yields results that are smooth and professional.

Manual Focus

Slide the **Auto / Manual slide switch** over to Manual. **Press** the **Focus button** and MF (Manual Focus) will appear in the upper right hand side of the **LCD** screen.

Now let's turn the focus ring which feels very smooth. Let's say you're shooting in full Manual Mode. Watch how smoothly and quickly one can focus with this Focus Ring.

While we're in Manual Focus I'd like to show you a quick way of touching up focus on a subject automatically. **Press in and hold** the **USER 1 button** on the top of the camera. The lens will Zoom in all the way, Focus Automatically (even though you're still in Manual Focus mode), and then return to the exact framing you had before you pressed the User 1 button. In the upper right hand corner of the LCD Screen (or EVF), note the Zoom #. This represents the relative Zoom position.

Move from 44 to 99 and back to 44, 12 to 99 and back to 12. There is a similar feature found in expensive lenses. However, the DVC30 returns to your original framing and does the focus for you as well!

(Reminder: the User1 button can be set to 16 different functions by pushing Menu, Switch Mode and User 1.) Customizing the DVC30 to your needs is easy. Most times, you will be shooting in Auto mode so slide the switch over to Auto. Now Focus, Shutter Speed, Iris, Gain, & White Balance will all be handled automatically.

What if you're going to use Auto Focus and be hand held using the Rocker lever for Zoom? The Focus/Zoom Ring will be again wasted? Go to the **Switch Mode Menu** and choose Focus Ring - Iris. For this to work you must slide the Auto/Manual switch over to Manual, press the menu roller dial in two times (one for Shutter and a second time for Iris) until you see the F stop on the right side of the LCD Screen. Now roll that small jog wheel down and show how smoothly the fade in/out gradations are.

Admittedly, using this little wheel found on the smaller camcorders is a little inconvenient because my finger isn't 12" long (then it would be a foot). Wouldn't it be great if I could use the larger Focus Ring to do this? Now roll the Focus Ring Down and the Iris will close and then up to open and notice after it hits **Open** the gains automatically activate and will add +3, +6, +9, +12, +15 all the way to +18 dB. Shoot a darker area with the Iris on Open and no Gain.

Then roll the Focus Ring (Iris) up to +3, +6, +9, +12, +15 and all the way to +18 dB as needed. Very little noise very impressive! Then ask doesn't this look better than what we saw at Open?

Suppose the customer is accustomed to a broadcast lens that goes up to close and down to open? Go to the **Switch Mode Menu** and change **Up Open** to **Down Open** and that will allow the customer to go up to close or down to close. This is truly an amazing camera considering its size and price.



Infra Red (SNS Super Night Shooting)

Now for seeing in total darkness! Make sure to go to the **Switch Mode** Menu and choose **SNS - IR**.

Shut the lights off and looking at the black LCD monitor say: Here's what you would get with any other camcorder. Now press the **SNS** button on the LCD side of the camera. Remove the lens hood by twisting off about 10 degrees or else the hood will block a portion of the internal IR LED's located under the°lens. Then Zoom in slightly because the IR LED's are targeted for a smaller area. Shoot something about 10' away with good contrast (Black on white print etc.). The Auto/Manual slide switch should be in Auto. When you press the SNS button you'll hear the IR filter being removed from the light path. The picture will turn B&W with high detail, not green and noisy as in some camcorders with IR capability. The Auto focus will be active, even in total darkness.

(Suggested Procedure)

Digital Zoom
Most users shy away from Digital Zoom circuits because they are unusable for quality video work. But the DVC30's Digital Zoom will work beautifully at 20X with virtually no distortion. Customers have told us the 24X position is also very acceptable. You can push the Play button behind the LCD panel (or make it User 3) to engage it. The Switch Menu has two settings, X24 and X160. Demo the X24 and use the X160 for special legal work. Using the "D.(igital) Zoom" while in the dark, combined with SNS is very impressive. Remarkably, the Digital Zoom will even function in the 16x9 Squeeze mode. Explain that combining the two digital processes, without seeing artifacts, is not an easy achievement.

OIS (Optical Image Stabilization)
Have the customer shake the tripod handle vertically, 1/4" of travel up & down, simulating a nervous shooter or shooting from a moving vehicle. It's important to let the customer do the shaking, then press the OIS button and watch his reaction, amazing!

White Fade
Press User 3 and notice the picture fade to White (as well as Audio so talk or tap the mic at the same time). Now pan the tripod over to another scene and remove your finger from the User 3 button. The picture and sound will fade back in very smoothly. A nice in camera effect. (Also, Menu can be set to Black fade).

Mode Check
Press this at any time to see Scene #, User 1, 2 & 3 status and Time / Date. (Even over Color Bars.)

Movie Like Mode
Set Scene File to #4 Frame mode which includes Cine Gamma. Notice how the contrast ratio looks more like film. Shoot a bright window, which normally appears as a white card on the set, now you can see trees, leaves or a car passing by.

Color Bars
The Stop button displays SMPTE Color Bars including Pluge, which is very helpful for setting displays and is a rare feature in this class Camera-Recorder, especially with a dedicated button.
(No CB available in Digital Zoom or SNS mode)

Easy Access
The DVC30's Menu Buttons are very similar to the system found in our shoulder mount AG-DVC200. Also, notice the large PLAY, RECORD, FF, REW, PAUSE and STOP buttons. These are definitely, a convenience when playing back a tape in the camcorder. This truly is a 2.4 lb. small camcorder that fits in your palm, yet has larger, more expensive camera features. Very well balanced too.



16:9 Wide recording
Show Letterbox and Squeeze mode. Letterbox can be played on 4x3 displays or 16x9. On 16x9 sets, one has to merely push the Zoom button to fill the screen. However, when shooting in the Digital Squeeze mode, the tape must be viewed on a 16x9 display to avoid distortion

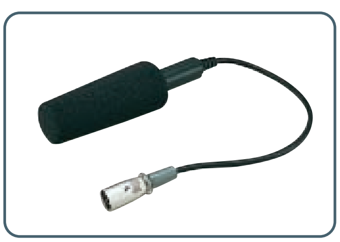
Date/Time Superimpose Function
It is very easy to turn on Time Stamp from the Recording Set Up menu. Go to Time Stamp and choose REC. (The out of the box factory setting is NO-REC.) When Time Stamp is on, [R] is displayed in the EVF and LCD and that means that the Time & Date are permanently recorded on the tape in the video area and it will pass through the Firewire. This is useful and sometimes required for legal documentation and surveillance work.

1394 external control function (back up control)
A 4 pin Firewire cable can control another IEEE 1394 device such as the AG-DV2500. A choice of three modes is offered.
1.Record onto external recorder only
2.Record onto both AG-DVC30 and external recorder
3.Begin external recording when the AG-DVC30 tape ends.

Accessories



The AG-YRL30G has a Spot & Wide Mode IR Light as well as a glow in the dark dimmer control.



Customers tell us they are surprised by the superb Audio quality of the Unidirectional AG-MC100G.



The AG-MYA30G XLR Adapter has phantom power, Mic/Line switching and connects to the DVC30 with an 8-pin locking connector.



Yes! The 5400mA CGAD54SE/1B does fit on the rear of the DVC30 and can power it for several hours.



A built in head cleaner is one of the professional touches of the capable AG-DVC30.



Our AG-HT30G "Field" Case can hold the DVC30 with the Mic & XLR adapter attached.



VariZoom's new Rocker VZDVR130 shows off the smooth Zoom capabilities of the DVC30.



The AG-DVC30 comes with standard accessories including a wireless remote control.

AG-DVC30 Specifications

[GENERAL]

Supply Voltage:	DC 7.2/7.9 V
Power Consumption:	5.0 W (when viewfinder is used) 6.1 W (when LCD monitor is used) 8.5 W (max.)
Operating Temperature:	32° F to +104° F (0° C to +40° C)
Operating Humidity:	10% to 85% (no condensation)
Weight:	2.315 lb (Approx.1.05 kg) 2.646 lb (Approx.1.20 kg) with battery and cassette
Dimensions (WxHxD):	4-3/8" x 4-5/8" (6-5/16" with handle) x 10" 110 x 116 (160 with handle) x 253 mm

[CAMERA]

Pick-up Device:	1/4-inch interline transfer type CCD x 3
Picture Elements:	Total: 410,000 pixels Effective: 380,000 pixels (horizontal pixel shift system)
Lens:	Leica DICOMAR lens with optical image stabilizer, motorized/manual mode switching, 16x zoom F 1.6 (f = 4.1 to 65.6 mm) (35 mm equivalent: 39.5 to 632 mm)
Filter Diameter:	43 mm
Optical Color Separation:	Prism system
ND Filter:	Auto On/Off by IRIS
Gain Selection:	0, +3, +6, +9, +12, +15, +18 dB
Shutter Speeds:	1/60, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/8000 sec.
Synchro Scan Shutter Speeds:	1/60.3 to 1/250.0.sec.
Slow Shutter Speeds:	1/4, 1/8, 1/15, 1/30 sec.
Minimum luminance:	4 lux (F 1.6, 18 dB gain, 50 IRE video output)

[VTR]

Recording Fromat:	DV (Digital Video SD)
Tape Used:	6.35 mm wide metal tape (mini DV cassette)
Recorded Video Signals:	525/60i (NTSC)
Recorded Audio Signals:	PCM digital recording 16 bits: 48 kHz/2 channels, 12 bits: 32 kHz/4 channels
Recording Tracks:	Digital video, audio signals: helical track Time code: helical track (sub-code area)
Tape Speed:	SP mode: 18.812 mm/sec., LP mode: 12.555 mm/sec.
Recording Time:	SP mode: 60 minutes, LP mode: 90 minutes (when AY-DVM60 is used)
FF/Rew Time:	Approx. 140 sec. (when AY-DVM60 is used)

[AUDIO]

Sampling Frequency:	48 kHz/32 kHz
Quantizing:	16 bits/12 bits
Frequency Characteristics:	20 Hz to 20 kHz
Wow & Flutter:	Below measurable limits

[VIDEO]

Sampling Frequencies:	Y: 13.5 MHz, PB/PR: 3.375 MHz
Quantizing:	8 bits
Video Compression System:	DCT + variable length code
Error Correction:	Reed-Solomon product code

[CONNECTORS]

VIDEO IN/OUT:	AV Multi x 1, (input/output automatically switched) analog composite input/output, 1.0 Vp-p, 75‰
S-VIDEO IN/OUT:	4pin x 1, (input/output automatically switched) Y: 1.0 Vp-p, C: 0.286 Vp-p, 75‰
AUDIO IN/OUT:	AV Multi x 1 (CH1, CH2) (input/output automatically switched) Input: -10 dBv, high impedance Output: -10 dBv, low impedance
DV:	4-pin, IEEE 1394 standard, digital input/output
Internal Microphone:	Stereo microphone
External Microphone:	Stereo Mini jack (3.5 mm diameter), -70 dBv
PHONES:	Stereo Mini jack (3.5 mm diameter)
XLR Adapter:	exclusive 8-pin terminal for AG-MYA30G
CAM REMOTE:	Mini jack (2.5 mm diameter)
DC INPUT: 2	P x 1, 7.9 V

[Standard Features]

LCD Monitor: 3.5-inch LCD color monitor, 200,000 pixels

Viewfinder: 0.44-inch LCD colour viewfinder, 180,000 pixels

Internal Speaker: 20mm round shape, volume - or +

*The specifications given above were measured by playing back tapes recorded by the AG-DVC30 on standard VTRs.
Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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